



April 22, 2019

Reference No. 038443-330

Ms. Leslie Patterson  
Remedial Project Manager  
United States Environmental Protection Agency  
Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Patterson:

**Re: Response to United States Environmental Protection Agency (USEPA) Comments on the Phase I Soil Gas Investigation Activities and Results South Dayton Dump & Landfill, Moraine, Ohio**

This letter presents responses to USEPA's February 28, 2019 comments on the Phase I Soil Gas Investigation Activities and Results. GHD has prepared this letter on behalf of the Respondents to the Administrative Settlement Agreement and Order on Consent (ASAOC) for Remedial Investigation/Feasibility Study (RI/FS) of the Site, Docket No. V-W-16-C-011 (Respondents). GHD has issued an updated Phase 1 Soil Gas Investigation Activities and Results letter (updated summary letter) to address the USEPA Comments and to include information related to soil gas probes installed in January 2019.

For ease of reference, USEPA's comments are presented below in bold/italics followed by GHD's response.

#### **USEPA Comment No. 1**

***Figure 1: Clarify that GP07-09 was not "abandoned" since it was, in fact, not found. Also indicate that GP17-09 and GP18-09 were not found (See Table 1). Alternatively, create a separate label type for the three probes that were not found.***

#### **Response**

Figure 1 in the updated summary letter was revised to indicate that GP07-09, GP17-09, and GP18-09 were not found. Figure 1 was also revised to include GP08-19 and GP35-19.

#### **USEPA Comment No. 2**

***Soil Gas Probe Installation, Page 2, Paragraph 2, Last sentence: Grammatical error, currently states "... are included listed above are included in Attachment 1."***

#### **Response**

The sentence was revised in the updated summary letter to state "The stratigraphic and instrumentation logs for each new and/or replacement soil gas probe location listed above are included in Attachment 1."



#### **USEPA Comment No. 3**

***Soil Gas Probe Installation, Page 2, Paragraph 3, First sentence: Please revise the statement to reflect that not all soil samples were collected at screen depth. For example, GP28-18 soil sample was 15-16 feet bgs, while the screen was installed from 11 – 12 ft bgs.***

#### **Response**

During the installation of GP28-18, perched water was discovered at 16 ft bgs. GHD halted the installation and recorded the presence of water at 13 ft bgs. Therefore, the screen for GP28-18 could not be installed at 15-16 ft bgs, which was the depth of the soil sample. GP28-18 was installed with a screen depth from 11–12 ft bgs. The paragraph was revised in the updated summary letter to provide additional clarification.

#### **USEPA Comment No. 4**

***Soil Gas Probe Installation, Page 2, Paragraph 4, First sentence: This sentence seems incorrect. Table 2 shows that there were no VOC detections in the soil sample from GP34-18.***

#### **Response**

The specified sentence in the updated summary letter was corrected to state "VOCs were detected in soil samples collected from 15 of the 16 soil gas probe locations; VOCs were not detected in the soil sample from GP34-18."

#### **USEPA Comment No. 5**

***Soil Gas Probe Installation, Page 3, First full sentence: The choice of units (mg/kg) is inconsistent with that of Table 2 (µg/kg). Suggest considering a more appropriate cut-off value such as 100 µg/kg or 1,000 µg/kg to be consistent with analytical results. Either would be an appropriate choice because five soil samples have total VOC concentration above 2,000 µg/kg, whereas the other nine samples have total VOC concentrations of less than 30 µg/kg.***

#### **Response**

The units used in the text of the updated summary letter were revised from mg/kg to µg/kg. Additional text was included to provide discussion using the suggested cut-off values.

#### **USEPA Comment No. 6**

***Field Parameter Monitoring, Page 3, Second paragraph, Second sentence: The meaning of "all accessible soil gas probes installed by GHD" is not clear. Does this mean the 18 new probes installed in 2018 or all accessible probes installed prior to that time in addition to the 2018 probes? If the latter is correct (which is apparent from reading further along), then additional information is needed to describe these probes with reference to Figure 1. Furthermore, there is a reference to EPA multi-level probes at 6 locations (GP-1 and GP-3 to GP-7) totaling 17 soil gas probes, but no***



***detailed information is provided related to the number of probes and associated depth at each location. Suggest adding this to Table 1.***

#### **Response**

The text of the updated summary letter was revised to state "Field monitoring includes all accessible soil gas probes installed by GHD, which includes probes newly installed in 2018 and 2019 as well as probes installed prior to 2018, as shown on Figure 1. Three soil gas probes that were not accessible/found: GP07-09; GP17-09; and GP18-09."

GHD has added the EPA soil gas probes and location coordinates to Table 1. As discussed with USEPA and Ohio EPA on April 5, 2019, GHD does not have the EPA soil gas multi-level probe construction/stratigraphy information and cannot add these details to Table 1. GHD had requested but was never provided with EPA soil gas multi-level probe construction details and depths for GP-1 to GP-7. GHD notes that field readings recorded in 2012 and 2013 had depths associated with the EPA multi-level probes (e.g., GP-1 8'; GP-1 12'; and GP-1 16'). Due to lack of information, GHD does not know if the depths refer to the depth of the borehole, bottom of screen, or mid-point of screen, etc. Additionally, the EPA multi-level probes have not been maintained over the years; the hand-written labels have worn off and GHD denotes the multi-level probes at each location using the orientation (i.e., N, E, S, W).

#### **USEPA Comment No. 7**

***Round 2 – August/September 2018, Page 3, Last paragraph: Suggest including a footnote to explain the rationale and approach for field-filtering methane. The type of measuring instrument should be specified; it should also be clarified that the "unfiltered" results correspond to total combustible gases, whereas the "filtered" readings correspond to methane only.***

#### **Response**

A footnote has been added in the updated summary letter which states "GHD has completed filtered and unfiltered combustible gas readings since March 2012 at USEPA's request in order to monitor methane and total combustible gases, respectively. The filtering device removes interferences from other potentially present hydrocarbons while allowing methane to pass through to the combustible gas meter."

#### **USEPA Comment No. 8**

***Round 2 – August/September 2018, Page 4 and Figures 2 and 3: It is unfortunate that GP17-09 and GP18-09 were not found by GHD (see comment above) as they have historically contained elevated methane levels (Figure 2). As a result, it is important that the middle paragraph of Page 4 and Figure 3 both indicate that these two locations could not be found and, therefore, could not be screened for methane. Otherwise, the reader may be led to believe that conditions have improved in this area. Consider replacing these probes as an additional recommendation since they were also not sampled for VOCs.***



## Response

GHD was not able to find GP17-09 and GP18-09 as communicated to USEPA and Ohio EPA by e-mail on January 8, 2018. As further discussed during our conference call held on April 5, 2019, GP17-09 and GP18-09 were originally installed in the vicinity of Valley Asphalt buildings to assess landfill gas and soil vapor quality and the risk to any building occupants. The two Valley Asphalt buildings that had been located adjacent to GP17-09 and GP18-09 were demolished, and the areas have been and continue to be used for storage of reclaimed asphalt and other materials, which explains why these two soil gas probes were not found. Valley Asphalt personnel informed GHD that permanent access to GP17-09 and GP18-09 is not possible. As the buildings no longer exist and site operations prevent continued access to these soil gas probes, replacement of GP17-09 and GP18-09 is not feasible. As noted on page 2 of the updated summary letter, GHD will evaluate the need for additional soil gas probes on Valley Asphalt property during the soil gas data assessment that will be completed in accordance with the RI/FS Work. The updated summary letter notes that monitoring the two soil gas probes could not be performed in 2018.

## USEPA Comment No. 9

***Soil Gas Probe Sampling and Analysis, Page 5: The report provides an overview of the soil gas VOC sampling and analytical program; however, no field form is provided in the attachments to document that sampling procedures were conducted in accordance with the work plan (canister vacuum, sampling time, helium leak detection checks if any was conducted, controller and canister serial numbers, etc), the results of the trip blank are not provided, and the result of the ambient air sampling is not clearly indicated (likely sample "Nar GP19" presented on Tables 3 and 4).***

## Response

The detailed sampling procedure information is contained in the field notes, which are included as Attachment 3 to the updated summary letter.

Table 2 was revised to include the soil results from GP08-19 and GP35-19. Table 3 and 4 have been revised to include the results of the trip blank, to relabel the sample Near GP19 as an Outdoor Ambient Air sample.

## USEPA Comment No. 10

***Soil Gas Probe Sampling and Analysis, Page 5: The report focuses on the maximum total VOC concentrations in soil gas at two locations (GP07-18 and GP01-18). This metric can be misleading because the focus is only on the maximum value but not the constituents. For example the maximum concentration measured at GP01-18 is almost entirely the result of chlorobenzene, whereas the maximum concentration measured at GP07-18 is a combination of non-chlorinated VOCs (e.g., N-heptane, toluene, and other BTEX). While these concentrations may be elevated, these results may be less important than those at other locations where the overall concentrations are smaller but individual constituent concentrations largely exceed screening levels. For***



***example, GP31-18 may present a greater concern than the above two locations because the TCE concentration there is 27,000 µg/m<sup>3</sup> and largely exceeds screening and action levels. Suggest including individual COC concentrations in addition to total VOC concentrations.***

#### **Response**

GHD revised the text of the updated summary letter to include details on the constituent concentrations that exceed screening levels for the soil gas probes under the section titled "Comparison of Analytical Results to Screening Criteria".

#### **USEPA Comment No. 11**

***Comparison of Screening Results to Screening Criteria, Page 6: It would be worth indicating the type of VOCs that contribute to the screening or action level exceedances. From Tables 3 and 4, it is apparent that some exceedances are driven by chlorinated VOCs, primarily TCE, whereas other exceedance are driven by petroleum VOCs.***

#### **Response**

Text was added to the specified section in the updated summary letter to indicate the VOCs that contributed to the exceedances.

#### **USEPA Comment No. 12**

***Discussion and Recommendation, Page 6, Third sentence: Grammatical error, "for commercial residential use" should be revised to "for commercial and residential use"***

#### **Response**

GHD addressed this in the updated summary letter.

#### **USEPA Comment No. 13**

***Discussion and Recommendations, Page 6, Third sentence: The text concludes that because 2018 concentrations are less than 2009, the claim can still be made that a VI issue is not present at parcel 4610. However, the report should clearly assess whether changes in screening levels since 2009 can affect this conclusion. For instance, IRIS revised the toxicity for TCE in September 2011. Even if there was a decrease in the TCE soil gas concentration at GP09-09 since 2009, the current TCE soil gas concentration may be a concern if the screening criterion for TCE has also decreased since 2009. The same comment applies to the crawlspace sampling that was conducted in 2012.***

#### **Response**

GHD has revised the paragraph in the updated summary letter to include discussion of the 2012 VI crawl space results for Parcel 4610 Building A (Building 18) compared to current USEPA RSLs for residential air. As discussed during our conference call on April 5, 2019, GHD proposes to collect crawl space air samples in July 2019 from this location to characterize current conditions, subject to property owner approval.



#### USEPA Comment No. 14

***Discussion and Recommendations, Page 7, Bullets at bottom of page: As noted above, consider replacing GP17-09 and GP18-09 if probes cannot be found. Also, clearly indicate that GP35-18 and GP36-18 will be installed and sampled. The results of these probes should be used for comparison with the concentrations measured at GP07-18 to the northwest (Jim City property), which GHD theorizes are not related to SDD due to their fuel-type signature.***

#### Response

Regarding GP17-09 and GP18-09, please refer to the Response to USEPA Comment No. 8 above.

GP35-19 was installed on Century Propane property (Parcel 3255) on January 15, 2019. The updated summary letter includes details and discussion of GP35-19 installation and sample results.

Installation of GP36-18 is pending property owner approval. non responsive

GHD has had no success in contacting the property owner. GHD understands that USEPA has undertaken attempts to contact the property owner. no

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Should you have any questions on the above, please do not hesitate to contact us.

Sincerely,

GHD

Julian Hayward

VC/kf/19

cc: Tamara McPeck, Ohio EPA  
Ken Brown, ITW  
Bryan Heath, NCR  
Wendell Barner, Barner Consulting  
Jim Campbell, EMI  
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